

Summary of York and North Yorkshire's Routemap to Carbon Negative

The York and North Yorkshire Routemap to Carbon Negative was created in 2022 by the York and North Yorkshire Local Enterprise Partnership (now part of the York and North Yorkshire Combined Authority) to plot out the strategic priorities for the region from 2022-2027 to reach our goal of carbon negative. It focuses on the three strategic pillars of decarbonising our energy system, enhancing natural capital, and moving towards a competitive, circular economy.




After the incorporation of the York and North Yorkshire Combined Authority, the Routemap is in the process of being refreshed. The following is a summary of the strategic priorities of each sector outlined in the original document.



Power

York and North Yorkshire's Vision: A resilient and affordable net zero power system by 2035, using a mix of complementary technologies, community-led and decentralised energy generation and storage, and making the most of existing landscapes and infrastructure. It will aim to seek multiple benefits e.g. in biodiversity, and create high value, sustainable jobs.

Strategic Priorities (2022-2027):

- 
1. **Increase low carbon energy generation:** Deliver a rapid increase in renewable capacity such as, solar PV, onshore wind, hydropower, and anaerobic digestion (AD), by enabling and securing investment. Ambitions to achieve net zero: Install additional solar, onshore wind, and hydropower capacity; Increase AD generation capacity; increase small bioenergy generation capacity.
 2. **Improve energy infrastructure:** Facilitate close working between energy suppliers, flexibility providers, distributors, and users, so that energy networks are ready for rapid and equitable decarbonisation. Ambitions to achieve net zero: Upgrade electricity infrastructure to enable double existing energy demand; reduce peak demand; deploy large-scale battery storage capacity.
 3. **Accelerate Carbon Capture, Utilisation & Storage (CCUS) deployment and ensure hydrogen readiness:** Work with key industry stakeholders and national government to accelerate CCUS deployment. Ambitions to achieve net zero: Install CCS for large biomass and fossil plants; deploy CCS retrofits on Energy from Waste generation; deploy an H2 turbine.

Heat & Buildings

York and North Yorkshire's Vision: Buildings are affordable to heat without fossil fuels, through a whole building, 'fabric first' retrofit approach, maintaining existing character and landscapes, and maximising circular economy principles in construction, materials, and use. This process will be socially equitable and create long-term, high-quality jobs.

Strategic Priorities (2022-2027):

1. **Retrofit buildings at scale to reduce energy demand:** Build investment, supply chains, and support to facilitate a rapid increase in the retrofit of homes, public buildings, and business premises. Ambitions to achieve net zero: large-scale retrofit of homes and all public buildings to at least EPC C rating or above.
2. **Phase out fossil fuel use:** Support government ambition in delivering the phase out of oil boilers by 2026. Target technology change through strategic planning, incorporating heat pumps, heat networks, electric, biomass and a decarbonising gas grid. Ambitions to achieve net zero: Eliminate oil boiler use; large scale deployment of heat pumps; deploy district heating; increase deployment of rooftop solar PV on homes.
3. **Future-proof new buildings:** Stimulate the development of a circular, biobased construction sector, and ensure that new buildings are built to high fabric standards so they will not require retrofitting in the immediate future. Ambitions to achieve net zero: Deploy biobased construction materials in new homes.
4. **Ensure hydrogen readiness:** Work with industry stakeholders and national government to prepare for H2 boiler installs, including the rollout of necessary infrastructure. Ambitions to achieve net zero: Increase installation of H2 boilers in buildings.

Transport

York and North Yorkshire's Vision: A low carbon transport system that allows individuals and businesses to make green travel choices. This system will be socially inclusive and equitable, inter-modal, bridging urban and rural environments, and prioritise the experience and health of the traveller.

Strategic Priorities (2022-2027):

1. **Increase active travel:** Rapidly increase the use of active travel for short journeys, through developing infrastructure and supporting behaviour change. Ambitions to achieve net zero: Reduce private car usage; increase in walking and cycling for short journeys; planning for 15-minute neighbourhoods.
2. **Decarbonise & increase use of public transport:** Increase public transport use, as well as reducing emissions through electrification and hydrogen technology. Ambitions to achieve net zero: Increase passenger journeys by bus and rail; roll-out electric bus fleet.
3. **Enable the shift to low carbon vehicles:** Develop infrastructure and support behaviour change to enable the transition to electric vehicles, electric bikes and other micro mobility devices, and shared mobility ownership schemes. Ambitions to achieve net zero: Increase battery electric vehicle uptake.
4. **Enable cleaner logistics:** Develop infrastructure to support low carbon freight options for businesses and the public sector, e.g. electrification of fleets, biofuel, hydrogen technology, and modal shifts to rail and more local delivery logistics. Ambitions to achieve net zero: Decrease HGV and van activity; shift freight to rail and cycle freight for short journeys; increase uptake of zero emission HGVs.

Business & Industry

York and North Yorkshire's Vision: Businesses are thriving with access to low carbon opportunities, building new and efficient supply chains to save costs and drive change. Small businesses are at the heart of this net zero transition, and will be equipped with the knowledge, skills, and finance they need.

Strategic Priorities (2022-2027):

1. **Improve energy and resource efficiency:** Improve the energy efficiency of businesses through retrofitting, switching to low carbon technology e.g. LED lighting, and minimising waste and consumption through more efficient processes. Ambitions to achieve net zero: Retrofit existing business premises; increase energy efficiency and reduce energy demand of businesses.
2. **Decarbonise heat and power supply:** Decarbonise heat and power for businesses through whole-system solutions, e.g. electrification, switching to bioenergy, district heat, and onsite renewable energy installation. Ambitions to achieve net zero: Increased installation of rooftop solar PV; increase electrification of industry; increase in fuel switching to bioenergy; deploy

district heating in non-domestic buildings; deploy hydrogen boilers in non-domestic buildings.

3. **Develop cleaner logistics:** Support the development of shorter and more efficient supply chains, through infrastructure improvements and business support in the uptake of low-emission fuels. Ambitions to achieve net zero: Increase proportion of freight carried by rail and cycle.
4. **Move towards circular business models & sustainable supply chains:** Support businesses to adapt to new sustainable ways of working, through circular business models and supply chains that minimise consumption and waste and maximise resource efficiency. Ambitions to achieve net zero: Increase material efficiency and circularity in industry.

Environment – Land Use, Agriculture & Marine

York and North Yorkshire's Vision: Collaborating to protect, restore, and enhance rural, marine, and coastal environments, as well as maintaining and strengthening biodiversity and supporting more resilient businesses. Food production is central to this approach, using a bottom-up approach to empower farmers and land managers.

Strategic Priorities (2022-2027):

1. **Improve productivity to reduce emissions:** Helping improve efficiency and productivity for farmers in food production.
 - a. Increase efficiency through low carbon technology: Support uptake of agri-tech and renewables, and facilitate partnership, collaboration, innovation, and knowledge share. Ambition for net zero: Decarbonisation of on-farm machinery.
 - b. Improved management of rivers and streams: Work in partnership with landowners and land managers to improve water quality through an integrated water management approach.
 - c. Reduce emissions in resilient food supply chains: Work to develop shortened sustainable supply chains to reduce waste and improve food security. Ambitions for net zero: Reductions in food waste.
2. **Increase storage of carbon in landscapes:** Through changing land management practices, capture more carbon in soil, hedgerows, trees, and peatlands whilst also strengthening ecological diversity.
 - a. Increase regenerative agriculture: Work with partners to promote regenerative agriculture and build confidence in new opportunities with bio-based products. Ambitions for net zero: Increase in growth of bioenergy crops.
 - b. Manage tree planting & hedgerows: Use a strategic approach to increase tree planting and promote good management of trees and hedgerows through supporting partnerships and building local



supply chains. Ambitions for net zero: Large scale planting of woodland and hedgerows.

- c. Restore upland and lowland peatlands: Support partnerships and restore upland and lowland peatlands, with the aim of improving biodiversity, water quality, and managing flooding. Ambition for net zero: All peatlands under restoration.



3. **Enhance marine and coastal ecosystems to improve carbon sequestration:** Protect and change coastal and marine management to store more carbon and have greater connectivity with land-based initiatives.

- a. Carbon storage in marine and coastal habitats: Explore this potential, whilst considering co-benefits and biodiversity impacts.
- b. Enhance, manage, and protect habitats: Develop nature-based solutions for the marine and coastal realm, and enhance, manage, and protect habitats through partnerships and programmes. Ensure connectivity with in-land water bodies.
- c. Support sustainable fisheries and aquaculture: Support and develop long-term sustainable fisheries through partnerships and programmes and the use of low carbon equipment.